# THREE CASES

OF

# INFLAMMATION OF THE HEART,

WITH THE

# APPEARANCES ON DISSECTION.

By ANDREW DUNCAN, Jun. M. D.
PROFESSOR OF MEDICAL JURISPRUDENCE IN THE
UNIVERSITY OF EDINBURGH.

[From the Edinburgh Medical and Surgical Journal, No. 45.]

# THREE CASES

OF

# INFLAMMATION OF THE HEART.

THE two first of the following cases came under my own observation when I had the temporary charge of the Clinical ward; and it is a very singular coincidence, that they were both admitted on the same day. The last occurred to Dr Spens, to whose friendship and liberality I am indebted for it. Hospital records compensate, by their authenticity, for many imperfections. These cases are therefore printed, without alteration, from the journals kept at the time. For a somewhat similar reason, the remarks I have subjoined are part of those then delivered to my pupils; they were necessarily composed in a very short time, and might have been improved by subsequent reflection and research; but my object is merely to increase our store of facts on an important disease, and to subjoin such observations as arose naturally out of the consideration of those which occurred to myself.

## CASE I.

ROBERT BAXTER, æt. 28.—March 11, 1815.—Miner.

Complains of severe headach, and a gnawing pain in the region of the stomach, not increased by pressure, but much aggravated on taking food; with a sense of a ball in the under part of the abdomen, working upwards through the course of the alimentary canal to his throat, when he feels as if immediate suffocation would ensue. This feeling he has experienced almost every night for nearly three months past. Frequently, although not always, at the beginning of each paroxysm, he has a very copious flow of urine, approaching nearly to the colour of table-beer. During the fit his belly swells, and it is always relieved by a great discharge of flatus by the mouth. He is not sensible of foaming at the mouth during the paroxysm; nor, if standing, is he thrown to the ground, but becomes so giddy as not to be able to stand without assistance. He also complains of great debility, want of appetite, interrupted sleep, and a disagreeable taste in his mouth on awakening in the morning. Has a delicate look; pulse 104, of moderate strength; H. natural; tongue covered with a brownish crust, with a clean edge; some thirst; belly costive, in which state he always feels

worst; urine varies; when his complaints are severe, it is increased in quantity, and of a higher colour.

Began to complain about three months ago. Was first seized with the pain and sense of tightness in the region of the stomach. Can remember no cause for his complaints, except being exposed to cold and hard work. Nothing happened at that time particularly to affect his mind. Says he has used stomachic bitters and bark, without alleviation of complaints. Was formerly troubled with symptoms nearly similar to the above, but never to such a height. Was able always to follow his occupation, and enjoy a good appetite.

12th.—Is in the same state as when admitted, but has had no stool for two days. Pulse 105.

Capt. infus. cas. sen. ℥ij. om. bihor. donec superv. cath.

13th.—The senna operated well, and he felt himself better until about two hours ago; since which time he has been affected with pain in the stomach. Pulse 100.

Int. infus. sennæ.

℞ Pulv. cort. Cinchon. flav.
Pulv. rad. Valer. syl. ā ℥ss. M.

Capt. coch. parv. bis indies.

14th.—Complains of general pain in his shoulders and back, and more particularly of griping pain in his bowels. Has also considerable vertigo when he walks, and some little appearance of globus, though not decided; no appetite; no thirst; belly natural; pulse 100, very small; tongue almost clean.

Cont. med.

15th.—Passed a better night, but complains of rheumatic pain in the shoulder and down the left side, and also of considerable heartburn, during the paroxysm of which, he expectorated a little blood. Belly loose; urine natural; pulse 104.

Cont. Pulv. valer. et cinchon.

Capt. Carbon. magnes. ℈i. pro re nata.

16th.—Slept ill last night from griping pains, which still continue: Has also rheumatism of the back of his neck. Heartburn relieved, and has no globus. Pulse 104; no appetite; some thirst.

Cont. med.

Capt. statim haust. anod. cum tinct. opii gtt. xxv.

17th.—Still complains of rheumatic pains and of uneasiness after food, but he eats more than the house allowance. Belly natural; pulse 105, small; slept well from the draught.

Cont. med.

18th.—Complains of lightness of head, and also of pain in his back; belly and urine natural; tongue not clean; pulse 104.

Int. med.

Illin. dorsum ung. terebinth.

19th.—Still has many complaints of headach, general weakness and pains; slept tolerably; griping pains rather diminished. Complains of pain even on slight pressure, a little below the scrobiculus cordis, and to the left side. Pulse 108.

Cont. med.

Illin. pars affect. tinct. sap. et opii.

20th.—Complains still of giddiness and oppression at his stomach after taking victuals; slept well; pain in the shoulder rather better; pulse 104.

Int. med.

Capt. infus. anthem. alkal. ℥ij. om. trihor.

21st.—Complains of pains in his bowels, increased on pressure; of weakness and giddiness; pulse 104.

Cont. med.

22d.—Still complains of rheumatic pain in his shoulder; also of pain in the bowels, increased on pressure; pulse 104.

Cont. med.

Injic. enema fetid.

23d.—Complains much of pains in his belly, especially since breakfast; also of giddiness, and great weakness; slept well; says he perspires much; has acidity at his stomach; the pulsation of his heart is distinctly felt, even when lying towards the right side; and he has repeatedly fallen from his chair when sitting by the fire. Pulse 107.

Int. omnia.

℞ Gum res. assafœtid. ℥j. Solve in decoct. malv. comp. ℥x.
Injic. bis indies, pro enemate.

℞ Carbon. mag.
Pulv. rad. Valer. sylvest. ā ℥ss.
Capt. coch. parv. ter in die.

Let him have lb. ij. of beef-tea daily.

24th.—The injections came away immediately, and unmixed; he thinks that the pain in his bowels has been worse since; complains still of the soreness of his stomach; is very languid. Pulse 110.

Cont. med.

℞ Infus. gentian. comp.
Vin. domest. āā ℥vj. M. Capt. cyath. ter indies.

25th.—Is extremely languid and weak, both in body and mind; bowels very loose; pulse 105, weak; H. natural.

Cont. vin. amarum.

℞ Pulv. rad. Valer. sylves.
Pulv. cort. cinchon. ā ℥ss.

Infund. in aq. bullient. lb. j.
Agitentur in vase clauso per horas duas, colaturæ, adde
Aq. cinam. ℥j.
Æther sulph. ʒj.
Syr. amom. zingib. ℥ss. Capt. cyath. bis in hora,
Illin. abdom. Ol. succini. ℥j. quam primum, et bis indies injic. enemata.

26th.—Is in a remarkably languid state; requires to be fed. His limbs are almost cataleptic, lying in whatever posture is given to them. Some singultus this morning; is very distinct when spoken to. Pulse 122.

Int. med.
App. vesicat. nuchæ.
℞ Vin. rub. Lus. ℥vj.
Æther sulph. ʒij.
Tinct. opii, gtt. xl. M.
C. ℥ss. om. semihor et sæpius, si op. sit.
Hab. etiam magnes. ℥ss. pro re nata sumend.
Let him have a bit of steak.

27th.—Died this morning at seven o'clock.

*Sectio Cadaveris.*—The contents of the cranium, thorax, and abdomen, were carefully examined.

About an ounce of a transparent and colourless fluid was found accumulated between the dura mater and arachnoid coat, about the lower surface of the cerebellum, and the origin of the spinal chord, obviously collected here in consequence of the position of the head after death, and in all probability partly derived from the spinal canal. Within the lateral and middle ventricles, there was also from half an ounce to an ounce of a serous fluid. The brain and its membranes presented no appearance of disease. The lungs adhered very extensively on both sides to the parietes of the chest, but chiefly on the right. The adhesions were close and strong. The substance of the lungs had undergone no morbid alteration of structure. The pericardium contained from six to eight ounces of a greyish muddy serum, with flakes of a curdy matter. The heart had suffered a change of texture, not less singular than extensive. The whole parietes of the right auricle, and the anterior side of the corresponding ventricle, were found converted into a greyish-coloured substance of a very uniform texture, and having the consistence nearly of the prostate gland. There was not the slightest vestige of any of the natural tunics of the heart in this substance. The parietes of the left ventricle had undergone a similar change for about an inch all around its auricular orifice, and there was fully

a third of the septum between the ventricles, towards the base of the heart, converted into the same substance. Between the arterial orifices too, the septum was a little thicker than usual. The inner surface of the right auricle was covered with a sort of efflorescence, not unlike that which is often exhibited by hydatid cysts. The left auricle exhibited no morbid appearance. The valves, tricuspid, mitral, and semilunar, were of their natural structure, as also the roots of the pulmonary artery and aorta.

Within the cavity of the abdomen, there was most extensive disease. The whole mesenteric glands were enlarged, so as to form one irregular mass. When divided, they exhibited an appearance like that already described, as having been found in the sides of the heart. The whole of the colon had its coats thickened and rendered exceedingly tender. At various points of it, there was a vascularity accompanying this thickening, which indicated inflammation. At other parts, the sides of the intestines had become considerably thinner, and projected in the form of little pouches, which adhered to the parts with which they happened to be in contact. The whole of the jejunum, and a great part of ileum, were in the same state. In the angle formed by the junction of the transverse part of the colon with the large curvature of the stomach, which were found closely applied to each other, there was a stratum of half an inch broad, and a quarter thick, of the same sort of substance as was found in the heart. Towards the surface of the liver, in its right lobe, and at its upper convex part, there was a knot of the same kind of matter, of the diameter of a shilling; but, in other respects, this organ had a healthy appearance. There were two or three nodules of a similar matter, in the substance of the pancreas. The spleen presented nothing remarkable.

There was about a pint of serum effused into the cavity of the abdomen, which, except where it had touched the gall-bladder, and in consequence acquired the colour of bile, was of the usual yellowish tint, and quite transparent.

This case appears interesting,

1st, From its rapid and unforeseen event.

2d, From the appearances discovered on dissection.

When admitted, it was supposed to be a case of hysteria in a male,—a rare occurrence, yet not unobserved. Some consider hysteria and hypochondriasis as the same state of disease, modified by sex; the former being peculiar to women, the latter to men. This is in general true, but exceptions do occur; and it is not sufficient to reject all the testimonies adduced in proof of this, because we ourselves have not seen it. Unequivocal cases

of hysteria in men have been seen by Dr Trotter and others. Hypochondriasis certainly oftener affects females.

The difference between them depends much on temperament. Hysteria is peculiar to the sanguine, and hypochondriasis to the melancholic temperament. In hysteria, the affections of the mind are characterized by fickleness and mobility; in hypochondriasis, by the obstinacy with which the mind broods over a single subject. In hysteria, the patient is violently affected by every circumstance external to herself, and is agitated by every sudden impression; but the paroxysm is no sooner over, than she laughs at her own folly, thinks no more of it, and resumes her wonted spirits. In hypochondriasis, on the contrary, external circumstances make little impression on the patient; and if a sudden and violent impression rouse him for a moment, he speedily returns to brood over his loss of health, or finds in what has just passed fresh cause for despondency.

The symptom in Baxter giving rise to the idea that his disease was hysteria, was the accurate description he gave of the globus hystericus. But after he came under our care the symptom did not recur.

I was then led to consider his complaint as hypochondriasis, from the pain of stomach, increased on taking food; the irregular state of his urine; the costive belly; flatulence; interrupted sleep; bad appetite; foul tongue, and bad taste in his mouth; and still more by his constant complaints. I therefore left him a day or two to observe the symptoms.

On the 23d it is reported that the pulsation of his heart is distinctly felt, even when lying on or towards the right side; and it is remarkable, that, except the weakness of the pulse, and its occasional frequency, this is the only symptom connected with the state of the circulation noticed in the reports. It indicated a labouring action of the heart; but I did not perceive any irregularity in its action; and as it is a common symptom in hypochondriasis, from sympathy with the state of the stomach and bowels, it did not farther attract my attention.

Another symptom was noticed the same day, that he had repeatedly fallen from his chair when sitting by the fire. This might either proceed from syncope, or a nervous paroxysm, or from falling asleep; and I was positively assured that it proceeded from the last cause, which, in his debilitated state, was very probable.

This day his complaints first appeared to me to be serious, and I resolved to try with him Kaempf's method of treating hypochondriac affections. I therefore ordered him to get two of his

visceral injections daily. But, in this case, they did no good whatever, and the treatment was disagreeable both to the patient and the nurses.

On the 25th, his appearance was strikingly worse, and he was reported extremely weak both in body and mind. He was now evidently sinking. He was lying almost without sense, or the power of motion. Not having seen him for many days except in bed, it was not easy for me to judge of any gradual decrease of strength, but it was now too great to escape notice; and although I did not report it, I had observed that, for some days past, he spoke in an inarticulate mumbling manner; but after it attracted my notice, I could not ascertain whether it was his natural mode of speech, or the effect of disease.

On the 26th, he was still much worse; he seemed to have lost all muscular power; he required to be fed as a child; he sunk down to the bottom of his bed, and his limbs, which were perfectly supple, lay lifeless in whatever situation was given to them. He had also some hiccup, but seemed to retain his senses, or at least answered when spoken to.

My idea of his present complaints was, that effusion had taken place in the brain or upon the spinal marrow, oppressing the powers of life. The debility was evidently not the effect of fever, and it was too great and too quick in its progress, as I conceived, to be the effect of inanition or natural wasting. I therefore ordered a blister to the nape of the neck, and a stimulant cordial, with full diet. But these remedies were of no use, for he died next morning at eight, having been seized the evening before, at eleven, with very difficult and laborious breathing, amounting almost to convulsions.

The body was opened next day by my friend Dr Gordon, to whom I am indebted for the very accurate and excellent account of the appearances observed.

It discovered causes of the man's complaint, totally different from what I had conjectured; some of which corresponded with some of the symptoms which had affected him, but others had not been indicated by any thing observed.

The heart was found to be most extensively diseased, indeed to an extent which, from the importance of the organ, seemed impossible; and what is still more singular, it had not been accompanied by symptoms of any disease whatever of that organ, which shews how very difficult is the diagnosis of the diseases, even of the most important internal organ.

The pericardium did not seem in any way diseased, but it "contained from six to eight ounces of a greyish muddy serum, with flocks of a curdy matter." Besides the increased quantity of

fluid, its appearance indicated a considerable degree of preceding disease in the membranes which furnish it, although no signs manifested its existence during the life of the patient. The muddiness of the fluid, and the flocks of curdy matter contained in it, are effects which we would naturally expect to have been preceded by inflammation of the pericardium; yet neither did any symptom occur before death, nor did the uniformly smooth surface and natural structure of that membrane after death, afford any proof that inflammation of that membrane had previously existed; on the contrary, it was almost certain that it had not recently existed.

Corvisart * describes three species of pericarditis, the acute, sub-acute, and chronic. The last he admits to be a disease of a very obscure nature, chiefly from the various complications natural to it, so much so, that he considers it as being generally the consequence of some preceding disease. He says he has frequently met with it, and always found the diagnosis difficult, and very obscure, and that he does not wonder that it should embarrass practitioners at the bedside of the patient. In the instance which he gives of it, he considered the chronic inflammation of the pericardium proved, by its being thickened and containing a turbid liquid; but, during life, there were manifest symptoms of deranged circulation and respiration, although they did not indicate precisely the nature of the affection. There was great variation in the action of the heart and arteries. The pulse, always quick, was alternately regular and irregular in every possible way, and the respiration was short, embarrassed, frequent, and accompanied by a sense of weight at the ensiform cartilage.

In Baxter, the pulse was uniform, not very quick, ranging from 100 to 110, and always weak; the action of his heart, indeed, seemed to be inordinate, but his respiration was perfectly natural. And as there was no thickening of the pericardium, the proof of inflammation rests entirely upon the fluid being turbid, and containing flocculi of a curdy matter.

Other authors have also noticed a similar change in the liquor pericardii. Morgagni found more than the usual quantity of somewhat turbid fluid in a negro who died suddenly without any previous disease; but here he ascribes the death to the vessels of the brain containing air.—(Ep. v. Art. 17.) In another case (Ep. x. Art. 13), it was connected with an immense exostosis of

---

* A treatise on the diseases and organic lesions of the heart and great vessels, by J. N. Corvisart, M. D. translated by C. H. Hebb, pp. 404. 8vo. London, 1813.

the spine, pressing forward the ensiform cartilage. In another (Ep. xx. Art. 53), it was preceded by pain in the middle of the thorax, and the patient required to have his head elevated, although he could lie upon his back, and a little on his left side. In others (Ep. xxi. Art 9, 24, 36), it was accompanied by pleuritis; and in one (Ep. xxii. Art. 24) with tubercular phthisis. But the following case, from the same indefatigable and excellent observer (Ep. xlv. Art. 23), deserves to be noticed more fully, as it resembles the case of our patient more than any other I have met with.

"A Venetian woman, aged forty, of the lowest order, addicted to wine, and of dissolute manners. She was fat and healthy, but was exceedingly timorous, and the slightest cause produced trembling, and almost fainting. She often could not retain any solid on her stomach, and could never taste fish. But, on inquiring after her other complaints at her intimates, they uniformly denied that she ever complained of her head or her heart, and particularly never of violent pulsation, palpitation, or any other affection of that organ, and she had never had inflammation of the thorax. Her only complaint was of the uterus, which she asserted moved about in the abdomen, and ascended to her throat, sometimes with a sense of suffocation, from which she was however speedily relieved.

"On the evening of the 1st January 1709, she complained that her ribs were as if cutting her, and sent for a woman whom she supposed could give her relief. Next morning, she said that she was seized with a very violent hysteric affection, and that her uterus, moving about, had ascended to her throat, and was choking her. But in one or two hours, at the most, she died, without having had any convulsions visible by the bystanders, or any frothing at the mouth."

She was dissected ten hours after death, and Morgagni having doubts that it had actually taken place, proceeded with the utmost caution, after having made all the usual experiments to ascertain it.

Her limbs were not emaciated, but her abdomen and thorax were excessively fat, insomuch so, that her ribs were pressed in, and her sternum protruded by the size of the mammæ. There were adhesions of the lungs, slight on the left side, but very general on the right, with the presence of a pseudo-membrane. In the lungs were several hard, and as if tendinous places, and they were filled with frothy saliva.

The pericardium contained a good deal of turbid brown fluid. In the heart itself, the left ventricle was diseased. Not to mention that the tendinous fibres, which pass from the mitral

valves and columnæ, were more numerous than usual, certainly the columnæ themselves were thicker and harder, and seemed rather tendinous than fleshy; whether the colour was considered, which was white, or their greater firmness when cut with the knife. Besides, in the parietes of the same ventricle, there were places here and there in which the fleshy substance of the heart was either white or reddish white, so that at first they appeared like glands; but, on being cut into, offered the same resistance as the columnæ.

This degeneration of the flesh of the heart into a tendinous nature was more evident towards the outer than the inner surface of the ventricle, and was visible on that part of the outside, corresponding with the septum. The aorta, from the heart to its arch, was evidently, but slightly, dilated, and was contracted near the diaphragm. When cut up, and the blood which it contained was discharged, its whole internal surface from the heart, at least as far as the emulgents, exhibited some projecting whitish particles or threads, and, wherever it was tried, the inner coat of the artery separated in large pieces from the next coat, with the slightest rub of the scalpel.

There was also considerable disease in the abdomen. The situation of the intestines was deranged; the omentum was drawn back to the spleen; the intestines, especially the colon and rectum, were distended with air. The mesentery, stomach, spleen, and liver healthy. The pancreas, and some of the small intestines red, and the glands firmer and more distinct than natural. Upon the posterior surface of the uterus there was appended, by a short neck, a small body resembling an unripe cherry in whiteness, form and size. On being cut into, it was formed of confused callous fibres. Another tumour of the same kind was in the substance of the uterus.

In investigating the organic diseases of the heart, it may be considered,

1*st*, As a muscle; that is, merely as being an organ consisting chiefly of muscular fibres:

2*dly*, As the centre and chief organ of the circulating system.

In the first point of view, it may be considered as liable to the same diseases as other muscular organs; and, therefore, its obscure diseases may be illustrated by what occurs more evidently in them.

Muscles in general may suffer organic alteration,

1. In their form or structure;

2. In their composition.

Under the first head we include their number, size, situation, connection, &c.; in short, all those great or more obvious

deviations from the natural arrangement, which are easily detected by the knife of the anatomist, and, when once established, do not easily return to their original state.

Alterations in their composition consist in more minute changes, some of which even altogether elude our observation, while others are sufficiently obvious. They depend chiefly upon a change in their chemical constitution, and modify, if they do not determine altogether their powers.

The muscular fibre consists chiefly of that substance called by chemists fibrine; but it also, almost always, contains a colouring matter, gelatine and extractive.

Fibrine in itself is without colour, or white, as we see in the flesh of some fishes and birds, and in the fibrine obtained by chemical analysis from the blood.

It is not yet ascertained upon what the red colour of the flesh of man, and the higher orders of animals, depends. For the fact, that red muscles become white by washing, does not prove that the red colour depends upon the blood, but only that the colouring matter is soluble in water. Fishes have red blood, and yet many of them have white muscles, and in some animals, different muscles differ very much in colour. This is especially remarkable in the black-cock, where the outer layer of pectoral muscles has a very dark colour, and the inner is white, so that, in cutting out a slice of the breast, we have flesh of two very different colours, and yet supplied with the same blood, and even from the same arterial trunks.

In adult animals, the difference in the composition of their muscular organs is very striking; but, in all animals, from the moment of their existence to their final dissolution, there is a constant change going on; not merely that change by which one set of particles is removed as excrementitious, and replaced by another act of almost similar particles as nutritive, but a change by which the composition or chemical nature of the muscle is gradually changed.

At first, and in the embryo, the muscles are gelatinous. Haller found that the intestines of the common chick evince no irritability before the sixteenth day. Gradually the fibrine becomes preponderant, and in old age further changes take place.

But these changes are natural, and correspond with the situation of the animal; and they depend upon the concurrence of a variety of causes, the supply of a certain quantity and quality of blood, and a determinate degree of action in the exhalent and absorbent vessels, and this action is again connected with the agency of the nerves. Now it is evident, that, if any of

these causes be materially affected, a diseased or unnatural composition of the muscle must immediately follow.

By increased absorption it is wasted; by increased assimilation it is augmented in bulk; but the change is often not so simple, and fibre of the natural constitution is supplied by that which is not natural.

Accordingly, we find muscles altered not only in their colour, density, and cohesion, but even in their very nature. We find them converted into fungous or scirrhous masses, or other diseased composition, or into cartilage, tendon, bone, &c. substances not in themselves morbid, but here unnatural.

A change of this kind had taken place in Baxter's heart. The greater part of it had lost its natural red colour, and was almost white. This in itself is here a mark of disease; for, although in different individuals the intensity of the red colour of the heart differs naturally, as well as the colour of other muscular organs, yet the natural colour does not exceed certain limits; and when there is great and strikingly morbid differences between different parts of the same muscle, it seems always to proceed from disease.

But it was not merely in colour that the deviation from the natural composition of this heart was evident. Its texture or grain was also evidently changed, for, in that portion which had lost its natural colour, the fibrous arrangement natural to it was everywhere obscure, and in some places not to be discovered, even with the aid of a lens. It was not, however, absolutely destroyed, because, by boiling, it not only became hardened and crisped, though in a less degree than the natural fibres, but I succeeded, by very long boiling, in perfectly developing its fibrous texture. In short, the change of texture can be best described by saying, that, in a considerable portion of this heart its grain had become much finer than natural; so fine, indeed, that, without the assistance of art, the fasciculi upon which the grain of muscles depends could not be recognized.

This change was dispersed through different parts of the heart, but was chiefly obvious in the right auricle, septum, and left ventricle. In general, the change was less perfect near the inner surface, so that there the flesh, though white, was still visibly fibrous; while, as it approached the outer surface, its fibrous arrangement disappeared altogether. Yet, in the midst of these cartilaginous-like portions, a small bundle of red fibres was occasionally intermixed.

As it is highly improbable that an alteration of structure of this kind took place in the course of the few days during which Baxter declined so rapidly, we may suppose that it is not incon-

sistent with the heart carrying on its functions with tolerable regularity.

To ascertain this point, however, we should compare the phenomena which have occurred in other cases of the same kind,—but here we altogether fail; for, so far as I have been able to discover, no case exactly resembling this, in the kind of alteration of substance, has been observed, unless, perhaps, that which I have translated from Morgagni.

It is not unusual to observe white opaque spots upon the surface of the heart, sometimes thicker, and sometimes thinner; sometimes more, sometimes less distinct; and, at first sight, this heart seemed to present a spot of this kind, larger, thicker, and more distinct than usual; but, on cutting into it, the difference was obvious, for these spots are owing to the formation of a false membrane exterior to the proper coat of the heart, so that it can be removed, and leave the heart covered with its proper tunics. This appearance occurs so often, that Baillie and Soemmering do not consider it as being morbid. In Baxter's heart, however, it appeared that the white spots were owing to the substance of the heart itself being altered in composition.

But the alterations of the substance of the heart most resembling that of Baxter, are those in which part of it has been said to be converted into fat, adipocere, cartilage, or tendon. There is commonly some fat about the heart, and occasionally its quantity is enormously increased; but the state of Baxter's could never be mistaken for this disease, as in these cases the fat is external, and obviously a morbid accumulation of a substance otherwise natural. Weitbrecht is often quoted as having seen the substance of the heart converted into a mass like bacon, or lard, consisting of several layers, more or less thick; but, upon reading the particulars, as extracted from the Petersburg Trans. by Senac, it was evidently only a layer or layers of coagulable lymph deposited on the outside of the heart, and separable from it, which he only says in some places resembled lard; but he distinctly states, that it hardened in boiling water, and shrivelled when laid upon a hot iron.

However, there is no doubt, that the muscles in the living body are occasionally converted into a really fatty matter, as proved by its fusibility and inflammability. A recent instance of this in a sheep has produced a pamphlet from Dr Vaughan.*

---

* Some account of an uncommon appearance in the flesh of a sheep. By W. Vaughan, M. D. pp. 38, 8vo. London, 1813. See this Journal, Vol. X. p. 97.

Therefore, it may have happened to a certain degree with regard to the heart, * and, in its incipient state, would have a good deal the appearance of Baxter's heart. Indeed, as this was the most natural conversion of muscle, I thought it necessary to ascertain, by chemical experiment, whether it had occurred in Baxter's; but it both hardened in boiling water, and shrivelled on a hot iron, giving out the smell of burnt feathers, and yielded not a particle of oil or grease to any trial.

Another alteration is, where it becomes tendinous or callous. Albertini found the substance of the heart tendinous in the half next the basis; Schaarschmidt the substance of the heart quite callous sometimes the depth of two lines; Morgagni (Ep. xviii. Art. 34.) saw the heart larger, harder, thicker, and as if tendinous; there was also ossification of the aorta. She was a woman of 40, who had laboured for six years under difficulty of breathing, resembling spasmodic asthma, and died expectorating thick pus. At no time could the pulse be felt in her wrists, and yet, on dissection, the artery did not seem to deviate from its natural arrangement. The case already quoted from this author may be again mentioned.

The next morbid appearance noticed in Baxter's, was a sort of efflorescence, covering the inner surface of the right auricle, not unlike that which is often exhibited by hydatid cysts. It consisted of globular and pedunculated masses, attached to the parietes, and had very much the appearance of fatty particles; but on analysing them by fire, they were evidently fibrine or albumen, at least when placed on hot iron they did not melt, but shrivelled and burnt with the smell of feathers.

The question in regard to these is, whether they existed during the life of the patient, or were first formed by the gradual coagulation of the blood after death, and the concretion of its coagulable lymph with the sides of the auricle. But, besides occurring in the auricle, it appeared that a similar substance, but more in the form of a membrane, had lined the right ventricle, at least fragments of it, passing under the columnæ carneæ, still remain in the prepared heart

Except in general form, these have a considerable resemblance to the polypi of the heart, about which it was so long and is still disputed, whether they were formed before or after death; and probably the same arguments may apply here, as the only difference is, that in the usual form of polypi, there are one or

---

* Since these observations were written, I have found the heart itself partly converted into fatty matter. See Case II.

more long fibrous-like masses of considerable size, often entering into the mouths of the vessels. That the great majority of these are formed after death there cannot be a doubt; indeed, there are few bodies in which they are altogether wanting; but still there seem to be incontrovertible proofs of their being occasionally formed during life. The most decisive instance of this that I have met with, has been admirably described in this Journal,* by my friend, Mr W. Wood. Indeed, I am inclined to think that the loose body, as well as the attached mass, observed by him, had the same origin with what Dr Gordon and myself have denominated the efflorescence in Baxter's heart. At any rate, they prove the possibility of its having existed there long before death, which becomes more probable when we consider, that such an appearance would be often observed, if it originated in the coagulation and separation of the blood in the heart after death, as in this there can be no great diversity. The great objection to this opinion, is the natural state of the circulation during life; but this admits of explanation, as no part of this efflorescence was loose, or situated so as to obstruct the flow of the blood.

There are three ways in which such concretions may be formed: 1. By an organized growth from a surface of greater or less extent. 2. By an inflammatory exudation from a living surface, such as takes place often on the lungs, and sometimes on the outer surface of the heart itself. And, 3. The coagulation of blood, in consequence of a portion of it being removed out of the current of the circulation, and becoming stagnant.

In the first manner are formed tumours, warts, &c.; and sometimes even loose bodies, by their subsequent separation, when originally attached by a narrow neck;† but this could not be the process in the present instance.

In the second way are formed all false membranes and adhesions, for the exuded lymph afterwards becomes organized, from the shooting of vessels into it. Concretions formed in this way are known by their generally adhering to the surface from which the exudation took place, or, if they have become loose, by their having a membranous or flocculent form. There was evidently a tendency in this man to the exudation of lymph, as evinced by the adhesions formed in various parts of the body; and

---

* Vol. X. p. 50.

† See a paper of Mr Wardrop's, on moveable bodies found in the scrotum, in the third volume of this Journal, p. 421; and another on an albuminous concretion found in the thorax, in the ninth volume, p. 11.

the peculiarity of appearance of the efflorescence in the heart, that is, its being rounded into little masses, might be accounted for, by the peculiarity of the surface upon which it was exuded, viz. a reticulated muscular surface, in a constant state of alternate contraction and dilatation.

Concretions formed in the third manner are generally massive, long, and fibrous; in short, more like a polypus. Still these concretions may have arisen in this way, if we suppose, that, in consequence of its becoming less fibrous, the heart did not contract so readily, and did not empty itself at each systole, it would only propel the blood in the direct current of circulation, while that at the sides, lying among the musculi pectinati, might become stagnant, and have time to coagulate into grumous masses, which would soon acquire the appearance we saw in Baxter.

But, in whatever way they were formed, although I think the aetiology of such appearances always useful in leading us to further investigation and more accurate observation, the discovery of a means of removing, after they are formed, would be much more desirable. This is a degree of progress in the healing art which we can scarcely hope to attain; and, therefore, any means which presents the slightest chance of success, although apparently strange, deserves attention; and so I am disposed to consider M. Sherwen's proposal of scorbuticizing the system, first suggested in the Gentleman's Magazine for 1798, and afterwards renewed in this Journal for January 1814.

The last part of this man's dissection which I shall notice, was the great mass of disease found in the abdomen, and of it I shall say very little, as it has been sufficiently described by Dr Gordon. There were traces of inflammation, adhesion, formation of albuminous tumour, and a most extensive affection of all the mesenteric glands; and in the liver one of those tubercles so well described and depicted by Dr Farre, * under the title of Tubera diffusa. These appearances sufficiently account for the sensations of this patient; the pains in his belly, the feeling of a ball moving about, &c.; and all tend to shew the extensive manner in which the system was diseased, and the incurable nature of his complaint.

---

* Morbid Anatomy of the Liver. By J. F. Farre, M.D. 4to, London. Part I. 1812. Part II. 1815. I have referred this to the Tubera diffusa, as similar tubercles were found dispersed in various structures of the body; but from its determinate figure, and existing singly in the liver, it more resembled the Tubera circumscripta.

## Case II.

Mary Rickman, æt. 22, married.—March 11, 1815.

Complains of cough, attended with considerable expectoration; pain in the thorax, more particularly referred to the sternum and between the scapulæ, increased by full inspiration and cough; and of difficulty of breathing, aggravated by exertion. She is unable to lie in the horizontal position.

Complains also of pain in the right haunch, increased by pressure and exercise, but unattended by swelling. There is also considerable swelling of both ankles, which pits slightly on pressure; but there is no discoloration of the skin, nor is there any pain. Pulse 88; H. moderate; tongue rather white; much thirst; appetite bad; B. costive; catamenia irregular; urine natural; sleeps ill.

Complaints first began about ten days ago, with shivering and flushing; pain in the breast and cough, followed the next day by pain in the shoulders, elbows, knees, and right haunch; but the pain in all these joints, with the exception of the last, is now gone.

Has been bled, and taken purgatives and diaphoretics, but with little benefit.

Attributes her complaints to exposure to cold.

Mitt. sanguis ad ℥xij. pleno rivo.

App. vesicat. parti affect.

12th.—Was bled last night; no buffy coat on the blood, which, however, is tolerably firm. The blister applied to her side rose very well; but, as she was not relieved this morning, she was ordered to be bled again, but would not submit to the operation. Has a very severe cough, which distresses her much; and she has had no sleep for eight nights past. Has had no stool. The pain in the side, where the blister was applied, is relieved, but it is more severe in her breast. Pulse 88, rather full, and somewhat hard.

Capt. inf. cassiæ sennæ ℥ij. omn. horâ donec supervenerit catharsis.

Curetur ulcus vesicat. unguent. sabinæ.

Rept. sanguinis detractio ut antea.

13th.—Was bled from the jugular vein, at three yesterday afternoon, to the extent of ℥x. The coagulum is pretty firm, but there is no buffy coat. She was relieved at the time; but her severe cough has brought back the pain, which is very distressing and general over the breast. Slept none. Her bowels were moved by some senna which she got yesterday. Great thirst; little appetite; pulse 80, and soft.

℞ Mist. scill. ℥vj.
Tinct. opii ℥j.
Capt. ℥ss. secund. quaque hora vel pro re nata.
Et app. vesicat. magnum pectori.

14th.—Slept a little last night, and the pain of her breast is somewhat relieved. The blister has not yet been removed, but has risen. She has had less cough, but this morning complains of considerable sickness. Pulse 92, full, but soft; skin hot, but slightly moist; belly costive; urine scanty.

Cont. mist. scill. et curetur pars exulcerata ung. junip. sabinæ.
Capt. infus. cassiæ sennæ ℥ij. donec supervenerit catharsis.

15th.—The pain in the side is gone, but there is still some in the breast when she coughs, which has been very troublesome. Through the night expectoration considerable; B. regular; urine natural; pulse 78, full and soft; tongue whitish.

Cont. fonticulus.
Intermit. mist. scill. et
℞ Mist. mucilag. ℥vi.
Tinct. opii ℥j.
Capt. ℥ss. pro re nata.

16th.—The pain in her breast is almost gone, but she has a great deal of very severe coughing, and much nausea. Her spirits are considerably depressed. B. and urine natural; pulse 74, and soft; heat natural; tongue white; great thirst; no appetite.

Cont. mist. mucil. anod.
Habeat vini domest. ℥ij. indies, beginning to-day.

17th.—The pain of breast entirely gone. Says she sleeps ill, but appears to dose a great deal. Pulse 80, soft; H. natural; functions natural; thirst gone; no appetite.

Intermit. mist. mucilag. anodyna.
Et capt. linctí communis coch. minus subinde.

18th.—Slept ill last night; cough and expectoration considerable. Has considerable nausea and retching, and vomited this morning some green bitter matter. Pain of breast gone; pulse 90; H. natural; tongue white; some thirst; no appetite.

Cont. linctus, et capt. Pulv. rad. ipecac. ℈i. pro emetico.

19th.—The cough continues better; but she was seized during the night with pains in her bowels, and perpetual tenesmus, without any evacuation. She got an emollient injection this morning, which was quickly rejected, without giving her much

relief. Pulse 88; tongue clean; skin natural. She got the emetic yesterday, which operated well.

Cont. linctus.

Foment. abdomen stat. decocto malvæ comp.

Capt. stat. opii gr. ij. et post tres horas haust. ex. ol. ricini.

20th.—Took the opium pill immediately after dinner, and felt easy till about eight o'clock at night, when the cough recommenced with increased severity, and prevented her from sleeping. The castor oil operated moderately, but at this morning's visit her complaints appeared to be considerably increased; she had great pain of the breast, much cough, and her pulse was full and hard. She was ordered to be bled to the extent of ℥x. and a blister to be applied. From the smallness of the veins only ℥vi. of blood were got, and she has coughed less since, but feels no diminution of the pain, and her pulse is still somewhat hard. Respiration somewhat laborious; pulse 100.

Cont. linctus, et capt. Pulv. jalap. comp. ℈ss. et repet. dosis si opus sit.

21st.—The purgative powder acted with considerable severity, attended with gripes; is not able to lie upon her back, and was obliged to sit up all night, leaning upon her breast, but never slept.

She also complains of flatulence, proceeding upwards from the stomach, and of dyspnœa, and of a sensation of hollowness or want in her chest. Pain relieved, and not much cough, but she expectorated a great deal during the night. Pulse 88, and moderately full; tongue clean; H. natural.

Habeat trochisc. glycyrrh. c. opio. numero xxiv. quarum capiat. unum pro re nata.

Cont. linctus, et utatur semicupio quam primum.

22d.—Is still much distressed with the breathlessness, but has had no sleep during the night. Cough rather looser after coming out of the bath; but her breathing was very much affected.

Has still some pain of belly and tenesmus. Pulse 104, and soft; skin rather warm; did not get the lozenges yesterday.

Intermit. semicup. Rep. trochisci et linctus, et injic. enema emolliens quam primum.

23d.—Has had no sleep from being unable to lie down on account of the cough, and is greatly distressed for the want of it. Has rather less cough when she sits up. Has considerable pain in her breast when she lies on the right side. Expectorates a white frothy matter. Has still great tenesmus, and the emollient glyster gave her no relief. Considerable thirst; no appetite; pulse 110, and natural; B. costive.

Cont. linct. et trochisci, et capt. tinct. digital. gtt. x. omn. trihorio, atque injiciatur quam primum enema purgans.

24th.—Has passed a sleepless night, and cannot lay herself down. Rather more cough and less expectoration. Complains also of pain in her throat, which she distinctly refers to the trachea. On examining the fauces, some inflammation is visible. The purgative injection had no effect, and she has got infusion of senna this morning, which has not yet operated. Pulse 108, and full; tongue clean; some thirst.

Cont. med. et inf. sennæ, atque illinatur guttur anterius oleo ammon.

25th.—Had a blister applied to her throat yesterday, and had about two hours sleep before it began to rise. Since that time the pain in the trachea is better; but this morning her cough has returned with severity. Expectoration white and frothy; very copious. Has much dyspnœa. Complains also of her legs, which are very much swelled and tense, though they pit slightly on strong pressure. They are also painful to the touch. Pulse 106, not full.

Intermit. med.

Et capt. mist. scill. ℥ss. pro re nata.

℞ Ol. volat. terebinth.

Ol. camphor. ā ℥ss. M. agitando, et mistura illinantur crura.

Let her have a little bit of beef-steak to-day.

26th.—Is still very much distressed with cough and dyspnœa. Cannot lie in bed, but slept some sitting in a chair. Expectoration copious, frothy, but of a purulent appearance. Was seized last night with a sense of straitness across her chest, which was relieved by a draught of æther and laudanum. Her legs are less painful since they were rubbed with the oil. Urine scanty; B. natural; pulse 108, rather full.

Intermit. med. et

℞ Syrup simp. ℥iv.

Tinct. opii gtt. xl.

Mucilag. mim. nilot. ℥j.

Æther sulph. ℥ij.

Capt. coch. subinde.

Cont. frictio.

27th.—Was somewhat relieved by the mixture, and got some hours sleep sitting in the chair; but she is unable to lie down, and is much distressed with pain in her back and head, apparently from fatigue. Legs still very much swelled, but not painful. Pulse 114, full; B. regular; urine scanty; considerable thirst; expectoration copious, and swims in water.

Cont. med. et capt. tinct. digital. gtt. xij. ter indies.

28th.—Was very ill last night, but afterwards had some sleep. Is unable to lie on her back, and is easiest upon her breast or left side. Cough and expectoration continue. B. natural; urine copious; pulse 100, and of moderate strength; H. natural.

Cont. med.

29th.—Slept a good deal last night, kneeling upon the floor, with her breast against the bed. Cough and expectoration continue. Pulse 112; each alternate beat being much weaker; B. regular. Says that it is chiefly owing to the pain of her thighs that she cannot sleep, which, however, are less swelled than they were some days ago.

Cont. med.

Et illinant. crura tinct. sap. et opii.

30th.—Has still great dyspnœa, but slept a good deal upon her knees. She sometimes rests upon her hands and knees, to get freer breath, and cannot lie at all upon her back. Still coughs, and her expectoration is copious and purulent. She has also great distress from the swelling of her legs, which are very œdematous as high as the knees. Pulse 100, and natural; little thirst; no appetite; B. regular.

Cont. med.

Et habeat haust. ex tinct. opii gtt. xxv. atque æther sulph. ℥j. h. s. sumend. atque scarificentur malleoli.

31st.—Would not permit the scarifications to be made. Had a little rest in her usual posture. Expectoration freer; breathing laborious; pulse 80, and intermitting.

Cont. med.

Et cap. pil. myrrhæ et ammon. gr. x. bis indies.

April 1st.—Continues much in the same state. Pulse 100, not weak.

Cont. med.

2d.—Passed a bad night from a fresh attack of pain in her left side. She also complains much of flatulence. Pulse 110, full, and rather hard; B. regular; great thirst; little appetite; less cough and expectoration.

Mitt. sanguis ad ℥vj. statim.

Intermit. med. et capt. solut. gum. ammon. ℥j. om. bihorio.

3d.—Was not relieved by the bleeding last night, and thinks her cough rather worse. Expectoration as before; and she is greatly fatigued from being unable to lie in bed. Pulse 104, full and soft.

Cont. sol. ammon. et Hab. tinct. opiati, ℥ss.

Let her have some currant-jelly to-day, and daily.

4th.—Is still unable to lie down. Cough as before. Spitting decreased, but it is much tinged with blood. Pulse 100, and full.

Cont. med. et Capt. h. s. haust. anodyn.

5th.—Had some hours sleep, which refreshed her a little; rather less cough; expectoration diminished, and tinged with blood. The sternum, when struck, does not emit a hollow sound; and the pulsation of the heart is very distinctly felt lower than the ensiform cartilage. Pulse 110, natural; great thirst; little appetite; B. regular; urine natural.

Cont. med. et scarificentur pedes.

Let her have some good small-beer.

6th.—The scarifications made in her feet discharged a great quantity of serum during the night and this morning, and the swelling of her legs is entirely removed. Is however in great distress, from not being able to rest. Pulse 100, and natural.

Cont. med.

7th.—The scarifications have continued to discharge very freely, and relieved almost entirely the swelling of her legs. Her breathing also seems to be somewhat relieved by it, and her expectoration is easier. Pulse 120, natural; B. regular.

Cont. med. et capt. pil. digital. gr. v. mane et vesp.

8th.—Has been asleep since five o'clock this morning, lying on a mattress. Pulse 100.

Cont. pil. digital. linct. opiat. et haust. anod.

9th.—Cough still very severe. Expectoration difficult, purulent, and not copious. Right foot is affected with erysipelatous inflammation, causing great pain. Some return of œdema. Extremely weak, and got no sleep last night, although she lay in bed. Pulse 100, rather weak; B. regular; less thirst.

Cont. pil. digit. linctus, et haust. anodyn. et appl. solut. acetat. plumbi pedi

10th.—The inflammation of the foot is rather diminished by the use of the saturnine lotion.

There is some ecchymosis around one of the punctures, which is again beginning to discharge lymph; but the œdema of the right leg is again very considerable, and extends above the knee. There is some inflammation on the left foot; and the œdema has got as high as the calf of the leg. Since the inflammation of her leg came on, she has had great alleviation of her pectoral complaints. Pain of breast almost gone; and she can sleep in a horizontal position. Expectoration purulent, and not very copious. Pulse 112, and soft, small; B. regular; urine natural.

Intermit. haust.

Cont. pil. digitalis, linctus, et solut. acetat. plumbi ad ℥iss. et capt. elect. laxant. ʒj. ter indies.

11.—Is in bed to-day, lying with her head and shoulders elevated. Respiration very difficult; cough, and difficult expecto-

ration. Inflammation on her feet is rather less, but the œdema is increasing. Pulse 100, and full.

Rept. haust. anodyn. atque alia med. ut heri.

12th.—Had no sleep last night, as the cough attacks her whenever she lies down. Expectoration very copious, and she complains of a burning sensation under the sternum. Pulse 100, soft, not full, regular; heat natural. Feet much distended, with some vesications, and very painful. Legs again swelled.

App. vesicat. sterno.

Let her feet be seen by the surgeon.

13th.—Died last night.

*Sectio Cadaveris.*—On laying open the thorax, a considerable quantity of fluid was found effused into the cavities of the pleura, on both sides.

The lungs on both sides seemed quite healthy, and of their natural colour; but, on endeavouring to raise them up, they were found to adhere firmly to the pericardium, through its whole extent; to the diaphragm; and laterally to the pleura costalis, by membranous bands; and the lobes were firmly attached to each other, so that they could not be separated without some difficulty.

The pericardium was found adhering so firmly all round the heart, that it was with difficulty raised from it. It was very much thickened, and evidently consisted of three laminæ; the middle one being opaque, white, and dense; the outer very unequal in thickness; and the inner very vascular, red, and pulpy.

The heart itself was a good deal larger than natural, and was also thickly covered with coagulable lymph, which, owing to its being torn asunder from the pericardium, appeared very irregular on its surface. Under this lymph, about two-thirds of the thickness of the heart had been changed into a substance somewhat resembling in its appearance condensed fat; and was found in fact to contain fat, as it swam in water, melted, and stained paper with a greasy stain: the remaining third had almost lost its muscular appearance.

The columnæ carneæ in both of the ventricles were larger than natural. Ossification had just commenced in the semilunar valves, at the mouth of the aorta; but the mitral valve was thickly beset with osseous matter.

This woman was the wife of a marine on board of one of the ships then lying in Leith Roads, and was seized, when living with her husband, with rigors and fever, pain of breast and cough, and by rheumatic pains and swellings of all her joints.

She was detained on board ten days after the attack, by the tempestuous state of the weather. In the waiting-room, she attracted our attention chiefly by the hard, though œdematous swelling of her legs; but, on examination, more serious complaints appeared. She had been attacked at first with symptoms of pectoral inflammation, succeeded next day by rheumatic affections of the joints. When admitted, nothing of the latter remained except the swelling of the lower extremities, but the pectoral symptoms were still alarming. I considered it as a case of pleuritis; and, from the seat of pain, both in the sternum and between the scapulæ, as a case of *pleuritis mediastini*. Besides, as she could not lie in the horizontal position, I conjectured that the inflammation was chiefly anterior.

For these complaints, she was repeatedly bled, blistered, and purged; and, on the 17th of the month, the pain is reported to be entirely gone. But, on the evening of the 19th, she relapsed. The pain was again relieved by bleeding; but, from this date, until she was exhausted, and almost moribund, she never could lie down in bed. Indeed, nothing could be more distressing than to witness her fruitless endeavours to find out a position in which she might have some rest. My supposition at the time was, that the inflammation was over, and that effusion had taken place, not into the cavities of the thorax, but into the mediastinum, or at least that it was confined by adhesion, or otherwise, to the anterior part of the chest. I confess that pericarditis never occurred to me, as her pulse was generally full and soft, and throughout had never been unequal, except on the 29th and 31st, after the use of digitalis, nor had she ever had palpitation or syncope.

Pericarditis is indeed said to be a very obscure disease. And yet, except for my having at first taken up the erroneous notion that it was pleuritis, it was sufficiently obvious in the present instance. We had fever characterizing active inflammation, and the seat of the pain sufficiently indicated the place. Now, the only organs which could be affected there were the pleura, mediastinum, or pericardium. The cough and expectoration, and the absence of symptoms usually enumerated as characteristic of carditis, misled me in my judgment. Rickman had not the *pulsus inequalis, palpitatio et syncope*, of Cullen; nor the constant vomiting of Darwin; nor the palpitation, faintings, quick and unequal pulse of Sauvages; nor the very intense thirst of Burserius; nor the hydrophobia of Daniel; nor the delirium of Davis. *

And yet the intensity of pain, or rather anguish, in the region

---

* An Inquiry into the Symptoms and Treatment of Carditis. By John Ford Davis, M. D. pp. 190. 12mo. Bath, 1808.

of the heart, combined with the comparatively natural state of respiration during the inflammatory stage, might have directed me to the heart. Add to this the absolute inability to lie down, the extreme jactitation, and, when it was discovered, the total want of resonance from the percussion of the sternum. Even this symptom did not undeceive me, for I had previously supposed a purulent collection to have been formed under the sternum, which was the reason of my making the trial; and its value, as a diagnostic symptom, is, I think, very apparent from this case.

Our error in regard to the nature of this disease was not, however, of very great importance in this instance, as the treatment would not have been very much altered; nor probably could any treatment have been of use after she came under our care.

The symptoms in this case, which seemed to depend chiefly upon the inflammation of the pericardium, were,

1. The pain or anguish under the sternum.
2. The great jactitation and want of sleep from the commencement of the attack.
3. The total inability to lie down, and the comparative ease which the patient experienced by leaning forward.
4. The febrile state of the pulse, which could, however, be only characterized as full and soft.

The cough and expectoration I would ascribe to the inflammation of the pleura, and the effusion of water into the chest. All these contributed to the great dyspnœa which came on after the disease had subsisted for some time.

The dissection of this case presented a most striking instance of universally and violently inflamed pericardium; and I think I am warranted in considering the inflammation of the pleura in the vicinity, causing agglutination of the neighbouring lobes of the lungs, and effusion into the cavities of the chest, as an effect of the original pericarditis, in consequence of the inflammation spreading by contiguity. The pericardium, in this woman, adhered universally to the heart by a layer of coagulable lymph, without any effusion of serum. Cases of this kind are not always necessarily fatal, for, whenever we find the pericardium adhering to the heart after death, we may infer, that it is the consequence of pericarditis at some former period. This is not a very rare occurrence. I have myself seen it in a man who died apparently of asthma, and Corvisart has a chapter on the subject.* But the most remarkable circumstance in this woman's heart was its partial conversion into fatty matter. Of that I was assured, not only by its appearance, but by chemical experiments, which were perfectly conclusive as to the fact.

* P. 28.

Corvisart * himself never saw an example of this conversion, but says, that it has been seen by some modern anatomists, although their observations have not been published. He also confesses his ignorance of the manner in which such a transformation takes place. In the present instance, we find it accompanying pericarditis, but it does not follow that it was an effect of the inflammation. It may have existed before the commencement of the fatal disease. I do not know that any connection has ever been traced between the conversion into fat of other muscles, and preceding inflammation.

The commencing ossification of the valves, in so young a woman, is, however, an argument in favour of some state of inflammation having existed in the heart on a former occasion; and the membranous bands, causing lateral adhesions of the lungs, were evidently the effect of pectoral inflammation some time before the fatal attack.

## Case III.

### John Macleod, æt. 17, sailor.

January 25th.—Is affected with pain in the *right* side, on deep inspiration or on cough; which last is pretty severe, and attended by a very bloody sputum. The chest feels hot but not oppressed. Has headach, nausea, retching, and an occasional vomiting of a slimy black matter. Thirst; tongue whitish and moist at the edges. No appetite; B. regular; no sleep; pulse 92, small and soft.

Complaints of three days duration. Sputum became bloody yesterday morning. Was immediately bled to considerable extent; and a cathartic was administered.

Appl. vesic. lateri dolenti. Hab. aq. menth. pip. ℥i. pro re nata, nausea urgente; et haust. anod. h. s.

℞ Mist. mucil. ℥vss.
Acet. scill. ℥i.
Tinct. opii amm. ℥ij. M. Sumat. ℥ss. tussi urgente.

26th.—Blister rose well; breast considerably relieved; hæmoptysis diminished; pulse about 100; two stools.

Hab. haust. sal. efferv. 4ta. qq. hor.

Omitt. aq. menth. Cont. alia ut antea.

27th.—Considerable pain on coughing. Pulse 120; slight headach; face flushed; expectoration copious, and at present easy; several stools; had some sleep.

℞ Aq. font. ℥iij.
Aq cass. ℥i.
Tinct. digit. gtt. xl. M. Sumat. ℥i. sexta qq hora.

Cont. med. ut a. Hab. decoct. furfur ad. lib.

---

* P. 166.

28th.—Frequent loose stools; cough has continued severe; very little blood in the sputum; pain pretty nearly general over the left and lower parts of the breast, but not nearly so severe at present; retching at times; pulse 112, softer; face not flushed; no headach.

Cont. med. ut antea.

Appl. vesic. parti dolenti.

29th.—Side much easier; some sleep in the former part of the night; delirium towards morning; pulse about 120, rather feeble; intermitting; two stools.

Omitt. mist. cum. digit. et haust. salin. Cont. alia.

Hab. emuls. camph. ℥ss. 3tia qq. hor.

30th.—A good night; cough has not been so frequent; less dyspnœa; feels no pain; thirst; pulse quick and intermittent; belly regular.

Cont. omnia ut heri.

31st.—Cough at times has been distressing; considerable dyspnœa, but no pain; only one stool; pulse quick, feeble and irregular.

Hab. seri vinos. ℥x.

Cont. alia ut a.

February 1st.—Had a better night; still much dyspnœa, and pulse as yesterday; no stool.

Cont. ser. vinos. ad ℥xiv. et alia u. a.

Hab. pil. rhæi comp. iij.

2d.—Had a pretty good night; cough has not been very frequent. Pulse 120, feeble and irregular; continues very weak; one stool.

Cont. ser. vin. ad ℥xvi. Alia ut a.

3d.—Cough has been very frequent; dyspnœa continues; expectoration difficult; pulse 106; one natural stool; has taken the whey, but little of any other thing.

Cont. ser. vinos. Omitt. alia.

℞ Aq. cass. ℥iv.

Tinct digit. gtt. xl. M. Sumat. ℥i. bis indies.

4th.—Is very feeble; has taken very little food; cough very distressing, and respiration laborious; two stools.

Omitt. mist. cum digital. Cont. alia.

℞ Solut. ammoniac. ℥vi.

Syrupi ℥ss.

Aq. menth. ℥ij.

Acet. scill. ℥ij. M. Sumat. ℥i. 4ta. qq. hor.

Hab. aq. cardiac. ℥vi.

Hab. haust. cum tinct. hyoscyam. gtt. xl.

5th.—Has had a good deal of sleep; is asleep at present; breathing easier; two stools; pulse 106.

Cont. med.

6th.—Has been much disposed to sleep since yesterday; pulse about 116, firmer and more regular; one stool; thirst; and complains much of weakness.

Cont. med.

7th.—Has been affected with pain of breast since last night; cough troublesome; sputum tinged with blood; pulse about 80, but with frequent intermissions; several stools.

Rep. haust. Omitt. alia.

Appl. vesic. quamprimum lateri.

Hab. mist. acid. sulph. ʒj. 3tia vel 4ta qq. hor.

Utatur linctu comm. more solito.

8th.—Hæmoptysis has been constant; cough troublesome; pulse very feeble; has had little or no sleep.

Hab. seri vinos. ℥x.

Cont. alia ut a.

9th.—Died.

On opening the thorax next day, few or no adhesions were observable; nor was there any considerable effusion of serum into the sacs of the pleura. A little to the right of the sternum there extended from the lower part of the left side a dirty chocolate-coloured bag, which, on being opened, proved to be the pericardium adhering to the lungs, thickened and much distended; also containing two pounds six ounces of perfectly formed pus.

The inner side of the pericardium, and that part which is reflected over the heart, were covered with a thick coating of a substance resembling condensed curds; and in some parts to a greater depth than others.

The substance of the heart was very much paler than usual. It had no other peculiarity.

The dissection of this case shewed that it was an example of pericarditis, nearly as free from complication as it can occur; and, on this account, it becomes the more valuable, as Corvisart * informs us that he is in possession of no proper case of acute pericarditis without complication. But here, while we have a very high degree of inflammation of the pericardium, both where it invests the heart itself, as its outer membrane, and where it is reflected as a loose bag around it, there was almost no affection of the neighbouring parts.

The leading symptoms were at first pain in the *right* side; certainly a very anomalous symptom, but it must be observed, that the pericardium extended to the right of the sternum; cough,

with bloody expectoration; headach; nausea; retching; and occasional vomiting; pulse 92, small and soft. In the progress of the disease, the pain became general over the left and lower parts of the heart; the retching continued; the pulse became quick, feeble, and intermitting; and delirium came on. The bloody expectoration was for a short time suspended, and then increased so as to amount to hæmoptysis. At first he complained of want of sleep, afterwards he slept or dosed a great deal. His cough and dyspnœa fluctuated, but increased towards the close of his life, which took place on the fifteenth day from the attack.

These cases seem to me to form a valuable addition to our knowledge of this interesting disease. In Baxter we have an example of chronic and occult carditis, without any symptom occurring to indicate the affection of the heart; while after death the effusion of coagulable lymph, both into its cavities and into the pericardium, and the change its substance had undergone, left no doubt as to this important organ having been generally affected with inflammation. In Rickman and Macleod, we have cases of acute or subacute pericarditis; the former, accompanied by effusion of coagulable lymph, would have produced, if the patient had survived, a general adhesion of the pericardium, and the latter terminating in an enormous, and necessarily fatal, effusion of pus. The symptoms during life were no less different than the appearances after death; but any attempt to connect the one with the other would be premature.

Printed by G. Ramsay and Co.